

**LITHOPHANE CONSOCIA (BORKHAUSEN, 1792) (LEP.: NOCTUIDAE):
SOFTLY'S SHOULDER-KNOT – A NOCTUID MOTH NEW TO BRITAIN**¹M. R. HONEY AND ²C. W. PLANT¹*Department of Entomology, The Natural History Museum, Cromwell Road, London SW7 5BD.*²*14 West Road, Bishops Stortford, Hertfordshire CM23 3QP.***Abstract**

The moth *Lithophane consocia* (Borkhausen) (Noctuidae) is recorded for the first time from the British Isles at Hampstead, London. The vernacular name Softly's Shoulder-knot is suggested for common usage. Details of the record are given along with a description of the adult moth and hints for identifying the species. The adult moth is illustrated in colour and the genitalia of both sexes are figured. Earlier records of *Lithophane furcifera* (Hufn.) away from the former area of residency in South Wales should be re-examined.

Introduction

An example of a *Lithophane* Hb. species was taken by Raymond Softly at an actinic light on his third floor balcony in Hampstead, North London, on 20 September 2001. The insect was tentatively identified by Ray as *Lithophane furcifera* (Hufn.) – the Conformist – and a photographic slide of the live moth was exhibited as such at the Annual Exhibition of the British Entomological and Natural History Society without receipt of any adverse comment from the many entomologists present. Subsequently, Ray's photograph of the live moth was published during 2002 (*Atropos* 16, figure 16) and captioned as this species.

A visit to The Natural History Museum in April 2003 enabled Michael Fibiger, author and originator of the series *Noctuidae Europaeae*, to read some back issues of *Atropos*. His comment upon seeing plate 4, figure 16 of volume 16 was "I have discovered a mistake". In his opinion, the habitus did not conform to that species, but rather to *Lithophane consocia*, a close relative that had not previously been reported from Britain. Comparison of the *Atropos* figure by MRH with the illustrations given in Ronkay et al. (2001), convinced him that this identification was probably correct. The moth was also mentioned by Waring (2002), who noted that it was the pale, immigrant form of *L. furcifera* and not like examples of the resident form or, indeed, *L. lambda* (Fabr.). Interestingly, Ray Softly records the fact that on the night the moth was captured there had been a light north wind (Beaufort Force 1-2). This would fit in well with the European distribution of *consocia*, it being a more north-eastern species than *furcifera*.

The moth, which is a female, was preserved in Raymond Softly's freezer and was eventually given to CWP, who set it and in whose collection it now resides. A careful re-examination by CWP alongside the excellent colour plates in *Noctuidae Europaeae* (Ronkay et al., *op. cit.*) confirmed MRH's suspicions. The moth is undoubtedly the first confirmed British example of *Lithophane consocia*. A digital image of the moth was made and this was e-mailed to MRH, Michael Fibiger and Barry Goater; the latter two both confirmed that the moth is indeed *consocia*.

However, in order to confirm absolutely the identification, a slide was made of the genitalia (slide number CP/410/03 in CWP's collection). Though the differences between *L. consocia* and *L. furcifera* are slight in the female, those differences can be seen and confirm the identification. A discussion of the genitalia is given below.

Earlier records

We consider it to be highly desirable that voucher specimens of some of the earlier records of the Conformist *L. furcifera* should be found and re-examined. Whilst subspecies *suffusa* Tutt was undoubtedly resident in Wales and western England a century ago, records made away from these foci probably referred to the immigrant typical form *furcifera*, and it is possible that some of these might in fact be *L. consocia*. We are aware of the following records:

Halifax, Yorkshire circa 1870

One from Westmorland – no date

Brighton, 13 September 1898

Two near Lancaster, on 22 September 1902

Margate, East Kent, 12 October 1904

East Anglia, in October 1904

East Sussex, 18 September 1932 by Pearman (this is presumably the Vert Wood record given by Bretherton in Heath and Emmet, 1983?).

Ham Street Woods 28 September 1935 on the wrong side of a sugared tree

East Kent, 12 September 1936 by Embry (given in South, 1939), presumably the same as Dungeness, 12 September 1936, on a post (Bretherton in Heath and Emmet, 1983).

Dungeness 4 April 1946 flying near Sallow

We have not yet seen any of the above specimens with the exception of the Embry specimen in 1936, which is now in the R.C.K. collection at The Natural History Museum (via the Youden collection) and it appears to be correctly identified as *L. furcifera*. The specimen was cited by South in an Appendix (1939: 365) as East Kent, September 12, 1936 (Embry) but as Dungeness by both Chalmers Hunt (1966: 277) and Bretherton (1983: 71). The specimen, however, is labelled Lydd. If any reader is aware of the existence of any of the above specimens the authors would be pleased to hear from them.

European distribution

The species has a mainly northern distribution in Europe, having been recorded from France, Switzerland, northern Italy, Austria, Germany, Holland, Denmark, Sweden, Finland, Estonia, Latvia, Poland, Czech Republic, Slovakia, Hungary, Romania and European Russia.

Description of the adult moth

Good colour illustrations are available in Ronkay et al. (2001) and in Skou (1991). The moth is a generally darker grey than the otherwise rather similar *Lithophane furcifera*, with which it shares several elements of its wing markings. The following description by CWP is based on the Hampstead female, Plates H and I.

Head:

Vertex with white and grey banded scales, which are produced upwards to form a double crest. Frons with black scales forming a narrow horizontal band, originating at the upper edge of the eye and easily visible. Labial palpi with basal segments bearing long scales, banded pale brown and white, on the ventral, inner and dorsal surfaces, those on the ventral surface including many that are at least as long as the second segment of the palpus. Terminal segment with these scales much shorter and more or less adpressed and directed distad. Outer face of all segments of labial palpi with a line of black scales. Antenna with basal four segments white scaled, the next two with some white scales and the remainder entirely grey scaled.

Thorax:

Dominated on the dorsal surface by narrow brown scales tipped with blackish grey and a lesser number of grey scales tipped with white, the central area raised into a narrow crest which is defined in front by a thin white transverse line of scales, itself bordered in front by a thin black line. Sides of thorax with most scales grey tipped with white and scarcely any brown scales; a longitudinal thin black line of scales along the side of the thorax above the wing base, easily visible from the side. Tegulae white scaled, with a very few rufous scales admixed in the posterior third.

Abdomen:

Grey with admixture of whitish, notably on the first two segments.

Legs:

Predominantly grey-scaled, with some white scales and a few brown ones. Hind tibia with a longitudinal streak of black scales on the outer (antero-ventral) face and with two unequal ventral spurs at the distal end, each white with a black central band. Ventral surface of all segments of hind tarsus with four rows of orange spines evident, though the rows become confused in places and are hard to discern.

Wings:

Wingspan 44 mm (range in Europe 43-48mm). Forewing upper-side overall a blackish grey, darker and less bluish-grey than the immigrant race of *L. furcifera*. Some veins defined by scattered black scales. Basal one-tenth of the wing in the anterior half white, bounded posteriorly by a well-defined, short black basal streak, so that to the unaided eye the moth has distinctive white "shoulders". Wing terminology now used follows Heath (1976). Basal spot white. Sub-basal fascia obscure. Ante-median fascia taking the form of a thin looped line of black scales, inwardly edged with greyish white scales. Median fascia grey, more or less obscure.

Post-median fascia a thin black line, running from the costa posteriorly to join the disto-dorsal corner of the reniform stigma then re-emerging from the rear edge of the reniform stigma and continuing to the dorsum. Sub-terminal fascia whitish, interrupted and inwardly edged with rufous-orange scales. A small and indistinct patch of black scales in the tornal area. Cilia grey with white tips, a short upper row overlapping a longer lower row so that there appears to be a broad grey basal band.

Orbicular and reniform stigmata large, separated from each other by a distance equivalent to about half the length of the orbicular stigma. Orbicular stigma large and very weakly outlined in whitish, this line scarcely visible (but obvious and well defined in some European specimens so perhaps worn in this example). Fill colour a paler grey than the ground colour, and this pale grey extending anteriorly to become confluent with the costa. Reniform stigma large and squarish with rufous-orange scales clearly filling the dorso-proximal corner and extending at lesser density to fill most of the proximal half of the stigma. The extent of orange fill seems to vary in European specimens, but it always seems to leave the antero-distal corner grey. Claviform stigma the same pale grey as the orbicular stigma, very narrowly, but clearly defined by a black outline. A short, narrow, black streak originating from the apex of the claviform stigma and terminating at the post-median fascia.

Hind wing upper-side more or less pale whitish grey, with a grey suffusion in the outer area not affecting the cilia, which are distinctly paler, brownish white, with pale brownish scales evident along the veins (note that the left hind wing is slightly greasy in the Hampstead specimen in Plate H). Discal spot vague, suffused. Post-median fascia scarcely visible. The pale brownish white basal area is concolourous with the scales on the basal two segments of the abdomen.

Underside pale brownish grey, the hind wings paler than the forewings. The costal area of all four wings more heavily scaled, the scales broader and vaguely pinkish. Reniform stigma of forewing evident as a diffuse group of dark grey scales. Hind wing with obvious discal spot and post-median fascia, the latter wider and stronger at the costal end, thinning and not reaching the dorsum.

Recognition and similar species

Based on this specimen and on the photographs and text in Ronkay et al. (2001), the white, interrupted sub-terminal line (vaguely lined inside with rufous-orange) should serve to separate this species from *L. furcifera*, which has a characteristic reddish sub-terminal line. Also the general appearance of *L. consocia* is more contrasting with darker speckling than that of *L. furcifera*, which has a lighter, "cleaner" blue-grey ground colour. The build is also slightly different; *L. consocia* has shorter, broader wings than *L. furcifera* (most evident in set specimens). *Lithophane lamda* has an absent or indistinct claviform stigma and darker hind wings. Ronkay et al (*op. cit.*) state that *L. lamda* never orange-reddish scales in the reniform stigma, but their illustrations on Plate 10 (Figures 24 and 26) seem to contradict this statement.

Genitalia

We are indebted to László Ronkay for permission to use the male and female genitalia photographs reproduced in Plate G. These first appeared in Ronkay et al. (2001) from which the following text is also taken.

The male genitalia differ from those of *L. furcifera* in that the fultura inferior has a narrower basal plate, the extensions of the costal plate are longer, pointed, wedge-shaped or digitiform, the harpe is short, but longer than in *L. furcifera*, and the subterminal diverticula are considerably larger.

In the female the ostium bursa is somewhat broader and shorter than in *L. furcifera*, and the sclerotisation of the ductus bursae is less intense, whilst the sclerotised posterior plate is more ring-like.

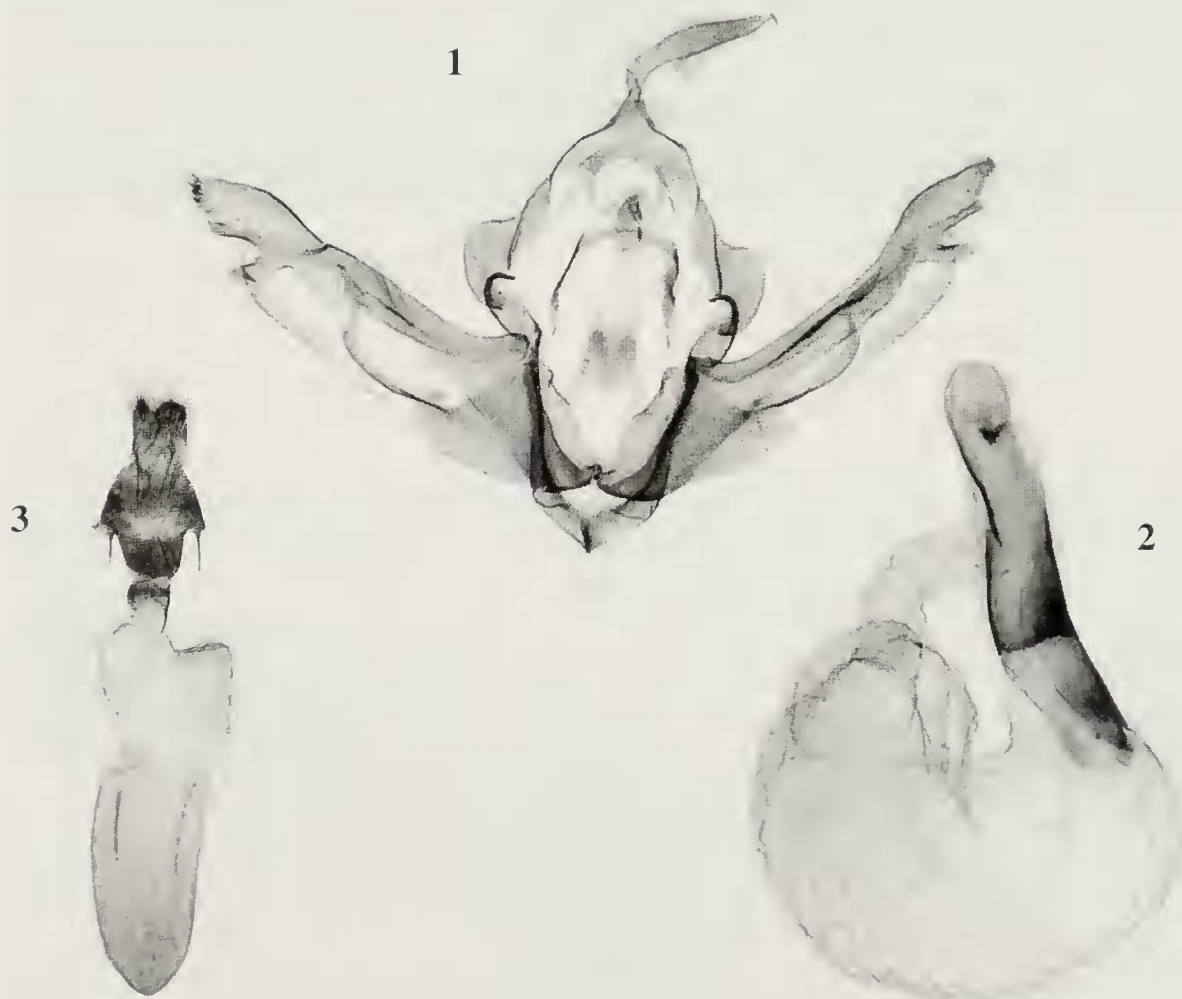


Plate G. Genitalia of *Lithophane consocia*.

1. Male genitalia; 2. Aedeagus with everted vesica; 3. Female genitalia.

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Ecology

All the available literature sources give the main larval foodplants as species of *Alnus* – *A. incana* and *A. glutinosa*, but larvae have also been recorded on *Betula* species and on hazel *Corylus avellana*. The adult moths emerge at the beginning of

September and are on the wing until the end of November, after overwintering the flight period resumes in March and lasts until May.

Vernacular name

We congratulate our friend Raymond Softly for his stalwart efforts with an actinic light trap on his third floor balcony in north London. That trap produced a new micro to Britain during 1982 in the form of *Argyresthia trifasciata* Stdgr. (Yponomeutidae) (*vide* Emmet, 1982); now it has produced a macro. We would like to suggest that Softly's Shoulder-knot might be an appropriate vernacular name.

In their taxonomic revision of the European Noctuidae, Ronkay et al. (2002) position *Lithophane consocia* after *L. furcifera* (Hufn.) and before *L. lamda* (Fabr.) In the latest British checklist (Bradley, 2000) *L. consocia* should, therefore, be given the sequence number 2238a.

Acknowledgements

We are most grateful to Michael Fibiger whose unrivalled experience and attention to detail led to the initial suggestion that the Hampstead specimen may have been incorrectly identified. We are also grateful to Michael and to Barry Goater who confirmed the identification from the digital image sent via e-mail. For that digital image we are grateful to Herts Moth Group member Andrew Hardacre, who also took the images in Plate H & I. For the genitalia photographs, reproduced from *Noctuidae Europaeae*, we are indebted to László Ronkay (Hungarian Natural History Museum, Budapest), and for permission to use them we again thank Michael Fibiger. Finally, we should record the fact that had it not been for the keen eyes of Raymond Softly, and his wisdom in retaining the moth for examination, this species would not now be on the British list.

Dr John Langmaid most kindly acted as the independent referee of this paper and, since one of the authors of this paper is also the editor of the journal in which it appears, we have accepted all of his recommendations and comments without question or dissent.

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Plate H. *Lithophane consocia* (Borkh.), Hampstead, Middlesex, 20.ix.2001. Upperside.
The colour of the insect's left wing is distorted by "grease" on the specimen.



Plate I. *Lithophane consocia* (Borkh.), Hampstead, Middlesex, 20.ix.2001. Underside.